

SEP 18 2006

Docket No.: 4590-372

Application No.: 10/523,003**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-3 (canceled).

4. (new) An antenna for a sonar with synthetic antenna processing, comprising:
a plurality of spaced out sensors distributed in a main zone in which the sensors are spaced out by a pitch d and at least in one zone located at one end of the antenna in which the sensors are spaced out by a pitch d' smaller than pitch d , said pitch d being defined so as to obtain the desired level of the grating lobe in the directivity pattern of a channel and said pitch d' being defined so as to obtain the desired precision for the self-calibration of the antenna, said self-calibration being made by the means of an inter-recurrences correlation.

5. (new) The antenna according to claim 4, in which the pitch d between sensors is reduced to d' at both end zones of the antenna with regard to said main zone.

6. (new) The antenna according to claim 4, in which the pitch d between sensors is reduced to d' at only one end zone of the antenna with regard to said main zone.

7. (new) The antenna according to claim 4, in which the pitch d is defined by the following formula:

$$d \approx 0.7 \cdot \lambda / \Delta \theta$$

in which λ represents the wavelength of the signal and θ the bearing width of the transmission sector.

8. (new) The antenna according to claim 7, in which the pitch d' is determined so

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that the report d/d' is at least greater than 1.5.

9. (new) The antenna according to claim 8, in which the pitch d between sensors is reduced to d' at both end zones of the antenna with regard to said main zone.

10. (new) The antenna according to claim 8, in which the pitch d between sensors is reduced to d' at only one end zone of the antenna with regard to said main zone.